

**CLAIMS**

1. A method of selecting and delivering a profiled, composite pulltruded element for  
5 a load-bearing structure, said method comprising:

i) providing load requirements and dimensions of said load-bearing  
structure,

10 ii) providing a computer having an internet connection, an input means and  
an output means, and a server including a homepage and having an internet  
connection, said server further including a database including a list of profiled,  
composite pulltruded elements and a calculation program for calculating the load  
capability of any of said profiled, composite pulltruded elements of said list and  
having any specific dimensions, and said homepage having links to said database  
15 and to said calculation program,

iii) addressing said homepage and selecting from said list of profiled,  
composite pulltruded elements included in said database a specific profiled,  
composite pulltruded element and defining specific dimensions thereof  
corresponding to said dimensions of said load-bearing structure,

20 iv) addressing said calculation program from said homepage for calculating  
the specific load capability of said specific profiled, composite pulltruded element of  
said specific dimensions and performing a comparison for comparing said specific  
load capability with said load requirements of said structure for determining whether  
or not said load requirements be fulfilled or not,

25 v) forwarding a positive validation response from said calculation program  
via said homepage provided said comparison in step iv) establishes the fulfilment of  
said load requirements or in the alternative, provided said comparison in step iv)  
establishes the non-fulfilment of said load requirements, forwarding a negative  
validation response and said calculation program selecting an alternative profiled,  
30 composite pulltruded element from said list and having said specific dimensions,  
and calculating the load capability thereof for comparison with said load  
requirements for selecting an alternative profiled, composite pulltruded element from  
said list fulfilling said load requirements and having said dimensions and forwarding

data identifying said alternative profiled, composite pulltruded element along with said negative validation response to said computer,

vi) output of said positive validation response or in the alternative said negative validation response together with said data from said computer,

5 vii) returning an order to said homepage for the delivery of said specific profiled, composite pulltruded element or in the alternative said alternative profiled, composite pulltruded element, and

viii) delivery of said specific profiled, composite pulltruded element or in the alternative said alternative profiled, composite pulltruded element from a factory.

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2. The method according to claim 1 the method further comprising:  
said calculation program selecting, provided said comparison in step iv) establishes the non-fulfilment of said load requirements, in step iv) an alternative dimension of said specific profiled, composite pulltruded element and calculating the load capability thereof for comparison with said load requirements for selecting an alternative dimension of said profiled, composite pulltruded element fulfilling said load requirements and forwarding data identifying said alternative dimension of said profiled, composite pulltruded element along with said negative validation response to said computer for output of said validation response from said computer.

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3. The method according to any of the preceding claims, said step i) comprising a plurality of sub steps including: definition of static system,  
definition of combination of loads on said load-bearing structure,  
definition of support of said load-bearing structure including definition of simple or  
25 elastic support, fixation or set-up or alternatively Charnier or hinged suspension.

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4. The method according to claim 3, said database further including an additional list of fittings to be used in combination with said profile, composite pulltruded elements and said calculation program calculating the load capability of any of said fittings of said additional list in combination said specific profiled, composite pulltruded element determined in step iv) and v).

5. The method according to any of the claims 3 or 4, said database further including a supplementary list of glue connections or bolt connections, and said calculation program calculating the load capability of said glue connection or bolt connection of any of said profiled composite pulltruded elements in combination with such connection and/or in combination with any of said fittings of said additional list.

6. The method according to any of the preceding claims, the method further comprising said database having said list of profiled, composite pulltruded elements organised in clusters of profiled, composite pulltruded elements having the same overall geometrical configuration, said clusters being further organised by ordering said clusters in increasing load capabilities of said profiled, composite pulltruded elements, or in the alternative decreasing load capabilities of said profiled, composite pulltruded elements.

10 7. The method according to any of the preceding claims, the method further comprising:

said calculation program selecting, provided said comparison in step iv) establishes the non-fulfilment of said load requirements, an alternative specific profiled, composite pulltruded element from the cluster including said specific profiled, composite pulltruded element having a higher load capability.

15 8. The method according to any of the preceding claims, the method further comprising:

said calculation program selecting, provided said comparison in step iv) establishes the fulfilment of said load requirements, an alternative specific profiled, composite pulltruded element from the cluster including said specific profiled, composite pulltruded element having a lower load capability, said calculation program performing a calculation of an alternative specific load capability of said load-bearing structure comprising said alternative profiled, composite pulltruded element and

20 30 performing a comparison for comparing said specific alternative load capability with said load requirements of said structure for determining whether or not said load requirements be fulfilled or not, and

said step v) including forwarding said positive validation response regarding said alternative profiled, composite pulltruded element from said calculation program via said homepage provided said comparison in step iv) establishes the fulfilment of said load requirements by said alternative profiled, composite pulltruded element or  
5 in the alternative, provided said comparison in step iv) establishes the non-fulfilment of said load requirements by said alternative profiled, composite pulltruded element forwarding no validation response from said calculation program via said homepage regarding said alternative profiled, composite pulltruded element.

10 9. The method according to any of the preceding claims, said forwarding in step v) further including the forwarding of information regarding said specific load capability determined in step iv) and said step further including output of said information along with said positive validation response or in the alternative said negative validation response.

15 10. The method according to any of the preceding claims, the method further comprising step vi) further including output of drawings of said load-bearing structure composed of said specific profiled, composite pulltruded element or in the alternative said alternative profiled, composite pulltruded element.

20 11. The method according to any of the preceding claims, further comprising: communicating said specific profiled, composite pulltruded element or in the alternative said alternative profiled, composite pulltruded element from said homepage to an inventory program, said inventory program checking delivery times and stock of said specific profiled, composite pulltruded element or in the alternative said alternative profiled, composite pulltruded element and returning information regarding delivery times and stock to said homepage.  
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12. The method according to any of the preceding claims, further comprising: communicating said specific profiled, composite pulltruded element or in the alternative said alternative profiled, composite pulltruded element from said homepage to a bookkeeping program, said bookkeeping program checking the price of said specific profiled, composite pulltruded element or in the alternative said

alternative profiled, composite pultruded element and any discount options and returning information regarding said price and any discount options to said homepage.

- 5        13. The method according to any of the preceding claims, the method further comprising an introductory measuring step of determining the dimensions of said load-bearing structure and a further introductory step of determining the load requirements thereof.
- 10      14. The method according to any of the preceding claims, the method further comprising the final of step of building said load-bearing structure from said specific profiled, composite pultruded element or in the alternative said alternative profiled, composite pultruded element.